

CHUMAK, M.D.; BLOKHINA, T.P.

Effect of high pressure on the accumulation of organic acids
during glucose fermentation by barotolerant bacteria.
Mikrobiologiya 33 no.2:230-235 Mr-Apr '64. (MIRA 17:12)

1. Institut mikrobiologii AN SSSR.

CHUMAK, M.D.; TARASOVA, N.V.; BLOKHINA, T.P.

Qualitative composition of organic acids formed during glucose
fermentation by pressure-resistant bacteria. Mikrobiologiya 33
no.4:565-568 J1-Ag '64. (MIRA 18:3)

1. Institut mikrobiologii AN SSSR.

GROMYKO, Ye.P.; BLAKHINA, T.P.

Conditions for the survival of Azotobacter in Podzolic soils.

Izv. AN SSSR. Ser. biol. no.6:924-927 N-D '64.

(MIRA 17:11)

1. Institute of Microbiology of the Academy of Sciences of the
U.S.S.R., Moscow.

BLOKHINA, V.

Agriculture - Study and Teaching

Teaching methodology in three-year courses in crops and animal husbandry. Dost.
sel'khoz. No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

BLOKHINA, V. A.

USSR/Metals - Testing

Jul 50

"Identity of the Heat-Resistance Indexes Obtained by the Creep Test and Continuous Hardness Test," K. I. Portnoy, N. M. Sadchikova, V. A. Blokhina.

"Zavod Lab" Vol XVI, No 7, pp 858-862

Presents experimental data on investigation of dependence of heat resistance of alloys on their composition by methods of tensile and hardness tests under continuous load at temperatures of 20 and 300°C. Investigates five cast alloys: Mg-Al, Mg-Ce, Mg-Ca, Mg-Sb and Al-Mg. Demonstrates that method of continuous hardness test characterizes creeping property of alloys and therefore application of this method, instead of creep test, may accelerate research work on new heat-resisting alloys.

166T62

27
1-422C

Structure and properties of cadmium-base bearing alloys.
A. M. Gorkov and V. A. Blokhin. *Int. J. Metals*
1954, No. 1, 68-70; Ref. Zh. Met., 1954, No. 2002.—The structure of Cd-Ni alloys contg. 0.5-3.0% Ni
consists of primary crystals of the intermetallic compd.
Cd₂Ni (microhardness 100 kg./sq. mm.) and eutectic Cd +
Cd₂Ni (microhardness 25 kg./sq. mm.). The Brinell hard-
ness (*H_B*) of Cd-Ni alloys increases with the increase of Ni
content from 13.1 at 0.5% of Ni to 40.0 at 3% Ni content at
room temp. With increase of temp. of the test, *H_B* decreases
to 17.0 for the alloy contg. 3% Ni at 150°, but still remains
above the hardness of the regular bearing alloy B-83 at the
same temp. for all Cd-Ni alloys contg. more than 1% Ni.
H_B of a Cd-Ni alloy contg. 1.3% Ni decreases by 40% and
for the B-83 alloy by 76%. The Cd-base bearing alloys
contg. Ni up to 2% could be used in highly loaded con-
ditions, working at high speed.

REMT

DEKHTER, V. A.

AUTHOR: Tikhova, N.M., Candidate of Technical Sciences and
Blokhina, V.A., Engineer. 129 - 8 - 4/16

TITLE: Influence of notches on the mechanical properties of the
(magnesium) alloy ML5. (Vliyaniye nadreza y mekhanicheskie
svoystva splava ML5.)

PERIODICAL: "Metallovedeniye i Obrabotka Metallov" (Metallurgy and
Metal Treatment), 1957, No.8, pp. 16 - 19 (U.S.S.R.)

ABSTRACT: This alloy, which has a high strength and ductility, and a high notch sensitivity at room temperatures is extensively used in the Soviet Union. The aim of this paper was to investigate the influence of notches on the mechanical properties of this alloy in the heat-treated state at room and elevated temperatures. The composition of the alloy is: 8.7 - 9% Al, 0.5% Zn and 0.4 - 0.46% Mn. It was established that a ring-shaped notch leads to a considerable decrease in strength of the alloy at room temperature and at 100 C. However, at temperatures between 100 and 150 C the strength of the notched specimens remains equal at 22.5 - 23 kg/mm² and is higher than the strength of smooth specimens, which drops uniformly in this temperature range. On increasing the temperature to 175 C, the strength of the smooth specimens is 18 kg/mm². Long duration tests until fracture at 150 - 200 C showed that a notch increases the time to failure of the specimen. The

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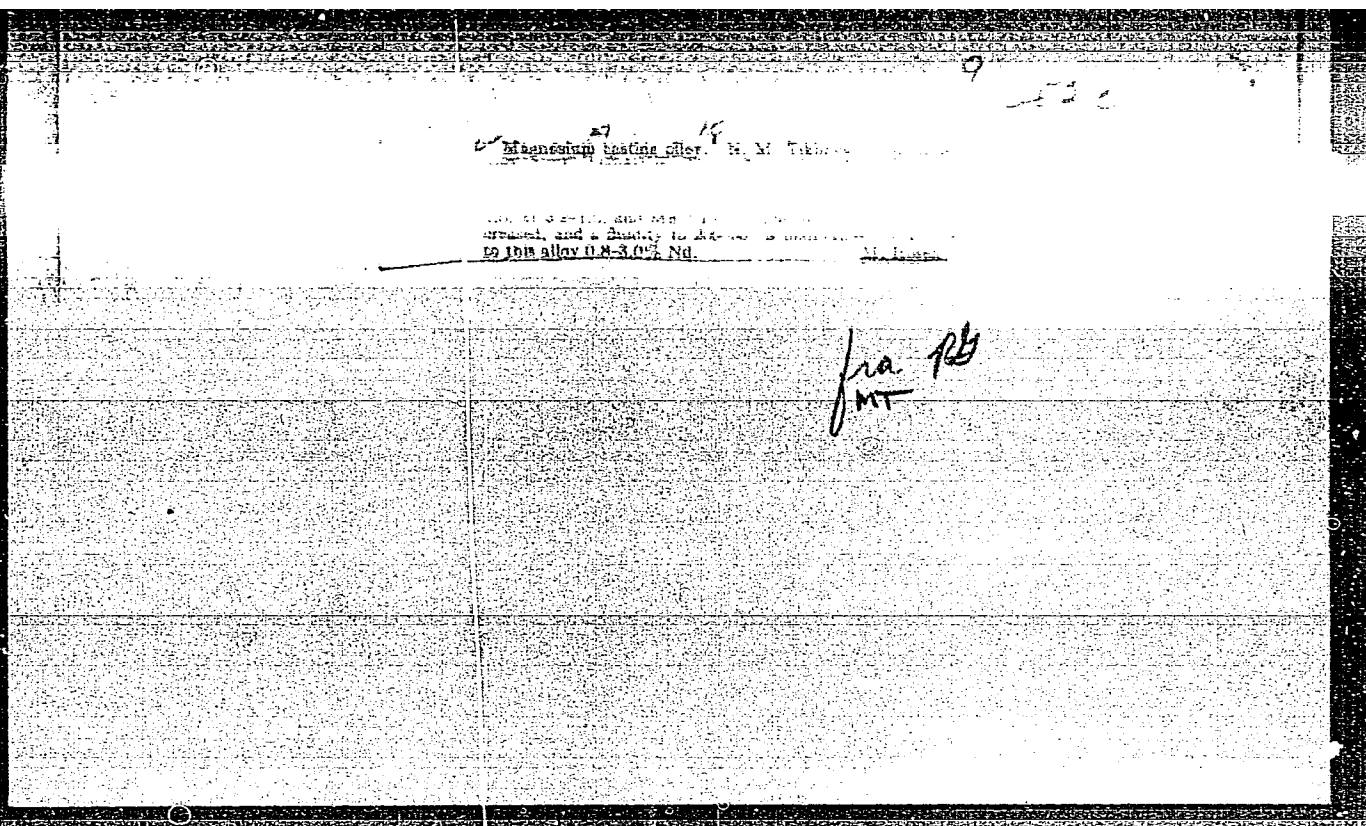
Influence of notches on the mechanical properties of the
(magnesium) alloy МЛ5. (Cont.) 129 - 8 - 4/16

influence of the notch in this material depends on the test
temperature; at room temperature and at 100 C the strength of
notched specimens is lower, whilst at 150 C and higher tempera-
tures the performance of the notched specimens is better than
that of smooth specimens.

There are 3 tables.

AVAILABLE:

Card 2/2



9
47 4F2C
Magnesium casting alloy with a magnesium content of 10%
Y. M. Zakharenko

IL'INA, L.I.; BLOKHINA, V.D.; USPENSKAYA, M.S.

Effect of ionizing radiations on proteins of structural elements of
hepatic cellular [with summary in English]. Med.rad. 2 no.4:23-30
Jl-Ag '57. (MIRA 10:11)

(ROENTGEN RAYS, effects,
on liver proteins (Rus))
(LIVER, effect of radiations,
x-rays, on proteins (Rus))
(PROTEINS, metabolism,
liver, eff. of X-rays (Rus))

Blockhina, V. A.

PLATE I BOOK EXPLANATION 207/4164

Technological developments in the machine-building and radio-engineering industries.
 Radiating alloys: alloying... (Rare Metals and Alloys) Transactions of the
 USSR Academy of Sciences, Moscow, Metallurgy, 1960.
 43 p. 3,150 copies printed.

Scientific Academy of Sciences, Institute of Metallurgy, USSR
 Institute for Rare Metals and Alloys, Moscow, Metallurgy, 1960.

Ed. I. G. Zhuravlov, Ed. of Publishing House: O. K. Kanyanov, Tech. Ed.
 P. G. Izrael'ev.

PURPOSE: This collection of articles is intended for metallurgical engineers,
 physicists and chemists in the machine-building and radio-engineering industries.
 It may also be used by students of schools of higher education.

CONTENTS: The collection contains technical papers which were presented and dis-
 cussed at the First All-Union Conference on Rare-Metal Alloys, held in the In-
 stitute of Metallurgy, Academy of Sciences USSR in November 1957. Reports of
 investigations of rare-metal alloys, titanium, titanium and copper-base alloys, al-
 loys of rare metals are presented and discussed along with investigations of
 titanium, vanadium, niobium and their alloys. The effect of rare-earth metals
 on properties of magnesium alloys and steels is analyzed. The use of titanium
 as a catalytic catalyst, electropolymerizing material, and as a material suitable for
 heat exchangers for automobile electrical systems are discussed. Also, the ef-
 fect of the addition of certain elements on the properties of heat-resistant
 alloys is examined and alloys with special physical properties (ferromagnetic
 and superconductive alloys) are discussed. No personalities are mentioned. Soviet
 and non-Soviet references accompany some of the articles.

PART II. TITANIUM AND COPPER-BASE
 ALLOYS WITH RARE-METAL ADDITIONS

Rare Metals (cont.)

207/4164

Lobachev, V. V., G. G. Korotkiy, and O. V. Smol'yansky. Wrought Magnesium Alloys
 with Rare-Earth Metals 209

Tikhonov, I. M., K. A. Bobilov, and L. A. Krasnyy. Magnesium Casting Alloys
 with Rare-Earth Metals 219

Priz, A. G., M. V. Mol'tsev, Z. A. Shidlovskiy, L. N. Pashchenko, and I. M.
 Baryshev. Investigation of Magnesium Alloys Containing Thorium 227

Krasnyy, L. A. Magnesium Alloys with Rare Metals 240

Yuliyev, I. M., and V. A. Bol'shet, Effect of Rare-Earth and Alkali-Earth
 Metals on Mechanical Properties of Magnesium Alloys of the Magnesium-Cerium-
 and Magnesium-Magnesium-Cerium Systems 259

PART V. RARE METALS IN STEELS

Belikov, S. Ya. Effect of Rare-Earth Metals on Sulfur Distribution and
 Sulfur Segregation in Chromium-Nickel-Molybdenum Steel 269

Card 6/8

L 04812-67 EWT(m)/ENP(t)/ETI LJP(c) JH/JD/JG/WB
ACC NR: AP6016027 (N) SOURCE CODE: UR/0128/66/000/001/0037/0040

AUTHOR: Tikhova, N. M. (Candidate of technical sciences); Blokhina, V. A. (Engineer)

ORG: none

TITLE: Effect of Zn on the properties of high-temperature alloys of the Mg-Nd-Zr system

SOURCE: Litovoye proizvodstvo, no. 1, 1966, 37-40

TOPIC TAGS: ternary alloy, magnesium base alloy, zinc, metal hardening, solid solution/
/ML5 alloy, ML9 alloy, ML10 alloy, ML15 alloy

ABSTRACT: The effect of the addition of 0.1-1.0% Zn on the properties of Mg alloys with 1.5-3.5% Nd and 0.5-0.7% Zr, as consisting in hardening through alloying of the solid solution, is investigated. Microstructural examination showed that treatment with Zn within the specified limits does not markedly affect the microstructure of the cast or heat-treated alloy (8-hr hardening at 535°C for alloys with ≤0.8% Zn and 510°C for alloys with 1% Zn, cooling in air with subsequent aging). In cast state the microstructure of the alloys consists of grains of the solid solution of Nd, Zn and Zr in Mg and of an eutectic along the grain boundaries. The composition of the eutectic includes a metallic compound, apparently $Mg_{12}Nd$. The positive effect of Zn on the ultimate strength of the alloys (Fig. 1, addition of 0.1-1% Zn at 20 and 250°C) is apparently

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UDC: 669.721.5.018.44:669.58

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ACC NR: AP6016027

conditioned by hardening of the solid solution, as confirmed by measurements of the microhardness of that solution (Table 1). This hardening of the solid solution is attributed to the concen-

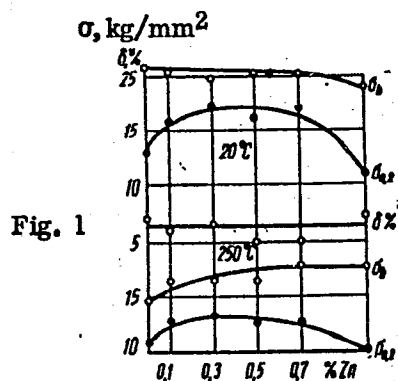


Table 1

alloy composition, %			H, kg/mm²
Nd	Zn	Zr	
2,17	—	0,57	67,3
2,10	0,48	0,55	75,5
2,47	—	0,59	71,5
2,44	0,5	0,52	79,5

tration of small groups of dissolved atoms at definite lattice sites. The dissolved atoms in limited quantities form, as it were, atmospheres around the dislocations and thus enhance the critical tension of the migration of dislocations, wedging the dislocations in, as it were, and hardening the alloys. Around the lattice vacancies accumulate atoms with various diameters

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L 04812-67

ACC NR: AP6016027

and in combinations which enhance lattice stability. Such accumulations, which reduce the lattice free energy, inhibit the displacement and diffusion processes of transition and increase the strength of alloys. This is exemplified by the addition of Zn: the diameter of a Zn atom is 2.74 Å, i. e. it is 14.3% smaller than that of a Mg atom (3.20 Å) and 36% smaller than that of a Nd atom (~3.74 Å). Apparently the addition of Zn contributes to a stable state of the alloy's crystal lattice. Other positive effects of Zn-treated ML10 alloys, as compared with Zn-free ML5, ML9, ML10, and ML15 alloys, are: better weldability, higher corrosion resistance, higher yield strength. Orig. art. has: 10 figures and 5 tables. 6

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 002

Card

3/3 *gd*

BL. Khina, V. D.

The constituent fractions of proteins of the smooth muscles of vertebrates. I. I. Ivanov and V. D. Blokhina. *Biokhimiya* 20, 201-5 (1955). Smooth muscles of the stomachs of pigeons, rabbits, and dogs were used in all cases.

Chest muscles of the pigeons and thigh muscles of the dogs and rabbits were used for expts. with striated muscles. Electrophoretic sepn. of protein constituents was used. In the proteins of the smooth muscles of the stomach of the pigeon 4 constituents were found: Fraction I, corresponding to peak I, representing 9% of the sol. proteins; fraction II (peak II), approximately 42%; fraction III (peak III), near 20%, and fraction IV (peak IV), near 20% of the sol. proteins. Results obtained with the proteins of the stomach muscle of the rabbits and dogs were practically identical with the above. The proteins of the actomyosin complex are present in the smooth muscles of vertebrates in comparatively small amts. and appear to be constituents of fraction II. The physicochemical consts. of I, III, and IV have not been investigated. The results obtained strengthen the assumption previously forwarded (*Khim. Dinamika Afyuzis i Podvishnykh Kislots*, Moscow 1950; *Byull. Eksp. Biol. i Med.* 1949, 321) that a protein constituent other than actomyosin forms the substrate of smooth muscle tonicity in vertebrates. B. S. Levine.

BLOKHINA, Y. D.

1974
EFFECTS OF IONIZING RADIATION ON THE
CYTOPLASM OF LIVER CELLS. Abstract
BLOKHINA, Y. D. and M. S. Abstract
1. Abstract 2. Abstract 3. Abstract

BLOKHINA, V.D.

Lipid content of liver cell microstructures in acute radiation
sickness in rabbits [with summary in English]. Med.rad. 4 no.1:
53-59 Ja '59. (MIRA 12:2)

(LIVER, eff. of radiations,
x-rays, on lipids (Rus))

(LIPIDS, metab.
liver, eff. of x-rays (Rus))

(ROENTGEN RAYS, effects,
on liver lipids (Rus))

BLOKHINA, V.D.

Lipoproteins of liver cell mitochondria in acute radiation sickness
[with summary in English]. Med.rad. 4 no.2:37-41 F '59.

(MIRA 12:4)

(ROENTGEN RAYS, effects,

on liver lipoproteins in rabbits (Rus))

(LIPOPROTEINS, metab.

liver, eff. of x-rays in rabbits (Rus))

(LIVER, eff. of radiations,

x-rays on lipoproteins in rabbits (Rus))

BLOKHINA, V.D.; DEMIN, N.N.

Distribution of lipids in the cell plasma of the liver in acute
radiation sickness. Biokhimiia 24 no.4:723-728 J1-Ag '59.
(MIRA 12:11)

(COBALT radioactive)
(LIVER radiation eff.)
(LIPIDS metab.)

BLOKHINA, V.D.; SHAL'NOV, M.I.

Comparative studies on protein fractions of blood serum following single exposures to high energy protons and roentgen rays. Biol. eksp.biol.i med. 47 no.8:49-52 Ag '59. (MIRA 12:11)

1. Predstavlena deystvitel'nyy chlenom AMN SSSR V.N. Orekhovichem.
(BLOOD PROTEINS radiation eff.)

BLOKAZH A.D.

БП-

PHASE I BOOK EXPLANATION

807/533A

Abademya nauk SSSR. Institut biologicheskoy fiziki.

Isledovaniye vuzrozhnykh reaktivnykh organizmov na radiatsionnoye vozdeystviye (Study of Early Reactions of the Organism to Radiation Effects) Moscow, 16-re izd. SSSR, 1960. 220 p. Errata slip inserted. 3,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut biologicheskoy fiziki.

Resp. Ed.: O.M. Frank, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: B.V. Gordin; Tech. Ed.: V.V. Volbort and Ye.Y. Khumli.

REMARKS: This book is intended for radiobiologists.

CONTENTS: This is a collection of nine articles by different authors on the effects of radiation on life processes. The following are discussed: the relationship between reflector mechanisms and disturbances in homeodynamics; the method of detection or total absence of homeodynamic reactions under soft irradiation upon preliminary treatment of the skin with novocain; reflector-induced changes in the central nervous system and the almost instantaneous advent of fine physicochemical reactions following irradiation; changes in the stability of the erythrocyte level during the first several hours after irradiation; blood albumin changes after irradiation, occurring earlier than before irradiation by scientists; and new and important data on tissue breathing and disturbances in the physicochemical properties of erythrocytes. E.N. Kiyevskiy, Doctor of Biological Sciences, is mentioned. Each article is accompanied by references.

Contributor, A.D.: Changes in the Physicochemical Properties of Erythrocytes Under the Effect of Radiation

85

Mokhov, I.D.: Albumin Fractions in the Blood Plasma of Animals Exposed to Different Doses of X-Rays

93

Yevichuk, I.Y.: Effect of X-Ray Irradiation on the Gas Balance of the Blood

113

Sushko, A.D.: On Changes in the Oxygen Content of Brain Tissues Under the Effect of Radiation

125

Aladchalova, I.A.: Characteristics of Physicochemical Changes in the Central Nervous System for Different Periods of Exposure to Radiation

157

AVAILABILITY: Library of Congress

Card 3/3

24/m/eng
7-53-61

(3)

BLOKHINA, V.D. (Moskva)

Some contemporary data on lipoproteins in cells. Usp. sovr. biol.

55 no.1:34-44 Ja-F '63.

(MIRA 16'3)

(LIPOPROTEINS)

BLOHINA, V. D. [Blokhina, V.D.]

Present data on the cellular lipoproteids. Analele biol
17 no. 4:65-77 J1-Ag '63.

BLOKHINA, V.D. (Moskva)

Effect of ionizing radiation on the protein synthesis. Usp. sovr.
biol. 57 no.3:394-403 My-Je '64. (MIRA 17:6)

L 7767-66 EWT(m)

ACC NR: AP5025917

SOURCE CODE: UR/0205/65/005/005/0659/0661

AUTHOR: Blokhina, V. D. ; Martynova, T. T.

ORG: None

TITLE: The ¹⁹effect of penetrating radiation on strongly bonded lipids of liver cell mitochondria

SOURCE: Radiobiologiya, v. 5, no. 5, 1965, 659-661

TOPIC TAGS: biologic metabolism, gamma irradiation, irradiation effect, chemical bonding, radiation sickness, experiment animal

ABSTRACT: Tests were conducted on rabbits with radiation sickness caused by a single application of the minimal absolute lethal gamma ray dose of 800 r (200-250 r/min) leading to death within a week. The fasting animals were sacrificed, lipids were extracted from the liver homogenate, and the weakly bonded lipids were removed from the mitochondria, the residue being considered solidly bonded. The lipids were determined in the fatty acids by the bichromatic method;

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UDC:577.391

L 7767-66

ACC NR: AP5025917

other contents such as phosphates, cholesterol and proteins were also determined prior to and 24 and 72 hours after irradiation. Prior to irradiation, the total content of lipids as percent of protein content in the mitochondria was very high (26%). The shares of weakly and strongly bonded lipids were 11 and 15% respectively. After 24 hours the total lipid content in these cells increased, due to an increase of solidly bonded lipid fractions (21%). The share of phosphatides in the weakly bonded lipids decreased somewhat and their triglyceride content increased. After 72 hours, at the height of radiation sickness, a decrease of all lipids in the mitochondria was seen due mainly to a decrease of solidly bonded lipids (6%). As a result of 50% alkaline hydrolysis of mitochondrial residue after extraction of the weakly bonded lipids, a weakening of bond strength was observed in the lipoprotein complexes at the height of radiation sickness. Orig. art. has: 1 figure and 1 table

SUB CODE: LS,OC/ SUBM DATE: 25Sep63/ ORIG REF: 005/ OTH REF: 002

nw

Card 2/2

ACC NR: AM6026752

Monograph

UR/

Romantsev, Yevgeniy Fedorovich; Blokhina, Vera Dmitriyevna;
Koshcheyenko, Nikolay Nikolayevich; Filippovich, Igor' Vladimorovich

Early radiation and biochemical reactions (Ranniye radiatsionno-biokhimicheskiye reaktsii) Moscow, Atomizdat, 1966. 270 p. illus., biblio., tables. 2200 copies printed.

TOPIC TAGS: radiation biochemistry, ^{cell effect} radiobiology, ~~radiation biology~~
~~effect~~, radiation chemistry, ~~radiation sensitivity~~, ~~radiation~~
~~resistance~~, radiation sickness, ~~chemical radiation protection~~,
DNA, RNA, ~~anti radiation drug~~, radiation cell effect

PURPOSE AND COVERAGE: This book is intended for biologists and biochemists concerned with problems of radiation biochemistry. The authors investigate the nature of early biochemical changes in the living cell following irradiation, and the effect of protective chemicals used in counteracting radiation in the living organism. The formation of peroxides and peroxide-like compounds, the effect of radiation on the synthesis of DNA and information RNA, the formation of macroergs, and other radiation problems in radiation biochemistry are discussed. An attempt is also made to determine the relationship between the operational mechanism of several protective chemicals and "radiosensitive" biochemical reactions. Each chapter is accompanied by an extensive list of references.

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UDC: 613.541.15:543.9.

ACC NR: AM6026752

TABLE OF CONTENTS [abridged]:

Editor's foreword -- 3

Ch. 1. Formation of H_2O_2 , organic peroxides, and peroxide-like compounds due to irradiation -- 7

Ch. 2. Effect of radiation and chemical protectives on DNA biosynthesis -- 43

Ch. 3. Effect of ionizing radiation on the biosynthesis of RNA and the possibility of normalizing it with protectors -- 120

Ch. 4. Effect of ionizing radiation on the synthesis of albumen -- 195

Ch. 5. Oxidative phosphorylation in the tissue of radiated animals -- 244

SUB CODE: 06/ SUBM DATE: 24Jan66/ ORIG REF: 336/ OTH REF: 805

Card 2/2

SEMENOV, M.P., prof., doktor geol.-min. nauk; ORADOVSKIY, A.Ye.;
IL'INA, O.V. Prinimala uchastiye BLOKHINA, V.I.; BYSTROVSKAYA, N.,
red. izd-va; BOROVNEV, N.K., tekhn. red.

[Geology of the foundations of high dams] Geologiya osnovanii vy-
sokikh plotin. Pod obshchei red. M.P.Semenova. Moskva, Gosstro-
izdat, 1962. 353 p. (MIRA 15:12)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut vodo-
snabzheniya, kanalizatsii, gidrotekhnicheskikh sooruzheniy i in-
zhenernoy gidrogeologii. 2. Nauchnyye sotrudniki Vsesoyuznogo
nauchno-issledovatel'skogo instituta vodosnabzheniya, kanaliza-
tsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy gidrogeologii
(for Semenov, Oradovskiy Il'ina, Blokhina).
(Engineering geology) (Dams)

L 38117-66 EWT(m)/EWP(t)/ETI IJP(c) JD/WW/JG

ACC NR: AP6014142 SOURCE CODE: UR/0075/65/020/012/1336/1340

AUTHOR: Yemolayev, N. P.; Kovalenko, G. S.; Krot, N. N.; Blokhin, V. I.

ORG: none

TITLE: Photometric determination of neptunium using xlenol orange

SOURCE: Zhurnal analiticheskoy khimii, v. 20, no. 12, 1336-1340

TOPIC TAGS: quantitative analysis, neptunium, photometric analysis

ABSTRACT: The tests were carried out with hydrochloric acid solutions of neptunium (IV). The optical density was measured with a Model "DU" Beckman spectrometer and a FEEK-M photocolormeter with a green light filter. The acidity of the solution was controlled with a type LP-5 lamp-type potentionmeter with a glass electrode. The results indicate that the absorption spectra of weakly acid solutions of xlenol orange and its complexes with neptunium (IV) are very different. In the long wave region, in which the absorption of complexes is high, the intensity of the color of the reagent is very slight. The maximum value of the molar coefficient of absorption of the products of the reaction between neptunium (IV) and xlenol orange is approximately 5.5×10^4 / cm-mole. The article proceeds to the description of a method for the determination

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L 38117-66

ACC NR: AP6014142

of neptunium in solutions containing impurities of other elements. Experimental results are given in a table. The time required for determination by this method is 3 hours, and the error is ± 1 microgram. Orig. art. has: 3 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 03Feb64/ ORIG REF: 005/ OTH REF: 007

Cord 2/2 *ell*

VDOVENKO, V.M.; MASHIROV, L.G.; BLOKHINA, V.K.; SUGLOBOVA, I.G.; SUGLOBOV, D.N.

Mutual solubility in the systems uranyl perchlorate - water-
diethyl ether and uranyl perchlorate - water - di-n-butyl ether
at 25°C. Radiokhimiia 5 no.1:80-89 '63. (MIRA 16:2)

(Ethers) (Uranyl perchlorate)

(Solubility)

BLOKHIN, V.N.; GRIGOR'YEV, M.G.; KOZHEVNIKOV, A.I.; KOROLEV, B.A.; MATYUSHIN, I.F.; PARIN, B.V.; TSIMKHES, I.L.; KALININA, G.V.; FEDOROV, A.M.; KOLOKOL'TSEV, M.V.; SOKOLOV, V.V.; PRILUCHNAYA, O.A.; SHUMILKINA, Ye.I.; ABRAMOV, Yu.G.; RYURIKOV, A.Kh.; IKONNIKOV, P.I.; VOZNESENSKIY, I.Ya.; TEPOV, S.V.; MIZINOV, N.N.; KUKOSH, V.I.

V.M.Durmashkin; obituary. Ortop., travm. i protez. 21 no.8:81 Ag
'60. (MIRA 13:11)

(DURMASHKIN, VIKTOR MARKOVICH, d. 1960)

HLONKHINA, N.A.

Structure and mineralogical composition of skarn zones in the
Maykhura deposit. Trudy Inst.geol. AN Tadzh.SSR 4:191-214 '61.
(MIRA 15:12)

1. Institut geologii AN Tadzhikskoy SSR,
(Maykhura Valley—Skarn)

BLOKHINA, T.

We should persistently promote the growth of labor productivity. Khim.volok. no.5:79 '62. (MIRA 15:11)

1. TSentral'nyy komitet professional'nogo soyuza rabochikh naftyanoy i khimicheskoy promyshlennosti.
(Textile fibers, Synthetic)
(Labor productivity)

S/186/63/005/001/006/013
EC75/E436

AUTHORS: Vdovenko, V.M., Mashirov, L.G., Blokhina, V.K.,
Suglobova, I.G., Suglovov, D.N.

TITLE: Mutual solubility in the systems uranyl perchlorate-
water-diethyl ether and uranyl perchlorate-water-
di-n-butyl ether at 25°C

PERIODICAL: Radiokhimiya, v.5, no.1, 1963, 80-89

TEXT: The work was carried out in view of insufficient knowledge on the solubilities in organic solvents of U salts other than $\text{UO}_2(\text{NO}_3)_2$. Different hydrates of $\text{UO}_2(\text{ClO}_4)_2$ and the anhydrous salt were prepared by dissolving pure UO_3 in HClO_4 and drying. In the system $\text{UO}_2(\text{ClO}_4)_2\text{-H}_2\text{O}$ -diethyl ether the critical point on the layer separation curve occurs at 25% $\text{UO}_2(\text{ClO}_4)_2$ and 5% H_2O . The aqueous and ethereal branches of the distribution curve merge. The effect of hydration on the solubility of the salt is negligible and the solubility of the anhydrous salt in ethyl ether is 35%. The salt begins to dissolve in aqueous ethereal solutions only when their H_2O content is less than 15% and the ether content of H_2O is more than 50%. The salt dissolves in H_2O -ether in the form of hydrates. Ethyl ether is
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Mutual solubility ...

S/186/63/005/001/006/013
EO75/E436

highly soluble in concentrated aqueous $\text{UO}_2(\text{ClO}_4)_2$ solutions, the solubility increasing sharply at about 43% salt content. In n-butyl ether the concentration of $\text{UO}_2(\text{ClO}_4)_2$ in contact with its saturated H_2O solution is 0.6%. The maximum solubility in the ether is 50.5%. The solubility of the anhydrous salt in ether is 3.7%. The degree of hydration of $\text{UO}_2(\text{ClO}_4)_2$ at the point of separation of layers is 4.7 and 4.8 in ethyl- and butyl-ether respectively. This suggests that the coordination number of U in the solutions is 5. The value is supported also by the composition of crystallo-solvates and the composition of the $\text{UO}_2(\text{ClO}_4)_2$ antipyrine complex obtained by E. Wilke-Dorfurt and O. Shliephake (Z. anorg. allgem. Chem., v.170, 1-2, 1928, 129). The following solid phases were identified in the system perchlorate - water - diethyl ether: $\text{UO}_2(\text{ClO}_4)_2$ with 7, 5 and 3 molecules of H_2O , $\text{UO}_2(\text{ClO}_4)_2 \cdot \text{H}_2\text{O} \cdot 4(\text{C}_2\text{H}_5)_2\text{O}$, $\text{UO}_2(\text{ClO}_4)_2 \cdot 3(\text{C}_2\text{H}_5)_2\text{O}$. In the system with dibutyl ether the solid phases were: $\text{UO}_2(\text{ClO}_4)_2$ with 7, 5 and 3 molecules of H_2O and $\text{UO}_2(\text{ClO}_4)_2 \cdot 2(\text{C}_4\text{H}_9)_2\text{O}$. There are 4 figures and 2 tables.

SUBMITTED: November 2, 1961
Card 2/2

BLOKHINA, V.P.

"The Action of Acute Psychic Trauma Following Cerebral or Somatic Insufficiency."
Cand Med Sci, Dnepropetrovsk State Medical Inst, Dnepropetrovsk, 1954.
(KL, No 14, Apr 55)

SO: Sum.No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations
Defended at USSR Higher Educational Institutions (16).

C. A. BLOKHINA, V.

11 A

Deformation of proteins of the keratin-myosin group in solutions of organic substances. A. G. Pasyanik and V. Blokhina. *Doklady Akad. Nauk S.S.S.R.* 71, 835-8 (1960).—The tensile characteristics of wool and hair keratins and muscle protein were examined, using various solns. for immersion. At 22° for wool keratin the values were: in H₂O, hysteresis loop (ln % of area of the extension curve) 45.0, work of extension (carried to 30% relative extension) 1.0; in acetate buffer (pH 4.1), 36 and 0.85; in 5 M urea, 43.6 and 0.83; in 14% guanidine nitrate, 26.5 and 0.78; in M urethan 40.5 and 0.93; in 1% Sulfanol, 43.1 and 0.93; in 1% Igepon, 41.5 and 0.89; in 3% Na hydrosulfite (pH 4.1), 67.9 and 0.61. For hair keratin the figures were, resp.: 39.0 and 1.0; 31.0 and 0.95; 34.5 and 0.8; 33.5 and 0.83; 38.2 and 0.91; 34.0 and 0.92; 34.3 and 0.91; 44.7 and 0.50. Results at 40° were analogous. All substances tested reduce the work of extension and decrease the area of hysteresis loop except for Na hydrosulfite. The substances, except the last, weaken the bonding between the various regions of polypeptide chains, retaining the covalent links. In the case of hydrosulfite the disulfide links are cleaved and the work of extension drops sharply, while the hysteresis loop area increases owing to the possibility of "recombination" of the attractive areas of the freed polypeptide chains, an event impossible in the 1st category of substances. With rat sartorius muscle in 0.9% NaCl using similar 30% extension technique, it was found that in 3-4 hrs. return to original dimensions is almost 100%. In 5 M urea or 0.25% adenosinetriphosphate (ATP) the work of extension was but 0.75-0.8 and residual extension after 3-4 hrs. was 16-17%. If ATP soln. was replaced immediately after removal of load by physiol. soln., the contraction to original size took place, but with urea soln. residual ex-

tension remained. The hysteresis loop area was 63% for physiol. NaCl and 67-74% for ATP and urea solns. Detn. of temp. dependence of stress in the fibers in 15-60° interval allowed computation of the entropy factor F , in the work of extension for the various fibers studied. In hair keratin this was 11.9% in H₂O, 14% in 5 M urea, and 21.2% in hydrosulfite soln. The latter was 34% for wool keratin. Hence the entropy factor rises as the areas of chains or entire chains are freed from previous linkages. In muscle fibers, studied at 15-40°, the entropy factor in the solns. of urea or ATP is rather high, not under 30-40%. Hence, Astbury's (C.A. 41, 6004e) idea of completely energetic mechanism of muscle contraction is incorrect; this is also confirmed by x-ray investigations (C.A. 44, 8076c).

G. M. Kosolapoff

PASYSKIY, A., BLOKHINA, V. (P.)

Displacement of isoelectric point in proteins in their deformation.
Doklady Akad nauk SSSR 86 no. 6:1171-1173 21 Oct 1952. (GLML 23:3)

1. Presented by Academician A. I. Oparin 3 September 1952. 2. Institute of Biochemistry imeni A. N. Nakh, Academy of Sciences USSR.

BLOKHINA, V. P.

USSR/Biology - Biochemistry

Card 1/1 rub. 22 - 32/51

Authors : Pasyunskiy, A. G.; Volkova, M. S.; and Blokhina, V. P.

Title : Isotopic method of determining the denaturing changes in albumins

Periodical : Dok. AN SSSR 101/2, 317-320, Mar 11, 1955

Abstract : Experiments showed that the denaturing of albuminous substances results in an increase in the chemical reactivity of numerous functional groups of the denatured albumin. The introduction of a new isotopic (S^{35}) method for the study and determination of changes in albumin due to denaturing is announced. Some results obtained with the new isotopic method are listed. Four references: 1 USSR, 1 USA, 1 German and 1 Belgian (1948-1953). Table.

Institution : Acad. of Sc. USSR, The A. N. Bakh Inst. of Biochemistry

Presented by: Academician A. I. Oparin, December 24, 1954

BLOKHINA, V.P.

PASYSKIY, A.G.; BLOKHINA, V.P.

Enzymatic oxidation of ascorbic acid in an open system [with English summary in insert]. *Biokhimiia* 21 no.6:826-833 N-D '56. (MLRA 10:7)

1. Institut biokhimiia imeni A.N.Bekha Akademii nauk SSSR, Moskva.
(VITAMIN C,
fermentative oxidation in open system (Rus))

✓ Oxidation of ascorbic acid in flow conditions. A. G. Pasynski and V. P. Blokhina (A. N. Bakh Biochem. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 111, 1293-6 (1958).—Simultaneous addn. of solns. of ascorbic acid and H_2O_2 in the presence of peroxidase (from horse-radish) to an app. provided with a semipermeable membrane in contact with constantly flowing H_2O was examd. as to the rate of oxidation of ascorbic acid. The kinetics of the reaction are examd. and the kinetic curves are shown. The system shows the typical enzymic behavior with ability to compensate extremes of concn. of the reactants and to stabilize itself dynamically as the reactants are brought in contact. The stationary-state stabilization is attainable with changes of 7-10% of the transfer coeff. in the system, at room temp.

G. M. Kosolapoff

PUSTOVALOV, I.I., inzh.; LEBEDEV, K.S., inzh.; LYUBCHENKO, A.M., inzh.;
MATVEYEV, V.A., inzh.. Prinimal uchastiye SHAPOSHNIKOV, A.V..
BLOKHINA, V.V., red.; PECHENKIN, I.V., tekhn.red.

[Approximate time norms for repair work; metal machining, fitting, fitting-assembly, electric welding, gas welding, and forging operations for collective farms and state farms] Primernye normativy vremeni na remontnye raboty; mekhanicheskaya obrabotka metallov, slesarnye, slesarno-sbornye, elektrosvarочnye, gazosvarочnye i kuznechnye raboty dlia kolxozov i sovkhozov. Moskva, Izd-vo M-va sel'skogo khoz. SSSR, 1960. 199 p. (MIRA 13:6)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po voprosam truda i zarabotnoy platy.

(Machine-shop practice)

SOLOV'YEV, B.F.; KINSH, A.S.; YAKUKHINA, A.F.; BLOKHINA, V.V., red.;
PECHENKIN, I.V., tekhn.red.

[Seed corn; a handbook] Semenovodstvo kukuruzy; spravochnik.
Moskva, Izd-vo M-va sel'khoz.SSSR, 1960. 226 p. (MIRA 13:6)

1. Russia (1923- U.S.S.R.) Ministerstvo sel'skogo khozyaystva.
Glavnaya inspeksiya po zemledeliyu.
(Corn (Maize))

MANZHELIY, I.I., kand.sel'skokhoz.nauk; red.; BLOKHINA, V.V., red.;
PECHENKIN, I.V., tekhn.red.

[Monospermous sugar beet] Odnosemiannaya sakharnaya svekla;
sbornik statei. Pod red. I.I.Manzheliya. Moskva, Izd-vo M-va
sel'. khoz. SSSR, 1960. 183 p. (MIRA 13:12)

1. Russia (1923- U.S.S.R.) Glavnaya inspeksiya po zemledeliyu.
2. Uchenyy sekretar' otdeleniya zemledeliya Vsesoyuznoy akademii
sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Manzheliy).
(Sugar beets)

SOLOV'YEV, B.F.; otv.red.; BLINKOVA, M.V., otv.red.; BLOKHINA, V.V.,
red.; PECHENKIN, I.V., tekhn.red.

[Abridged transactions of the All-Union Conference on Corn
Growing, Krasnodar 1960] Sokrashchennye materialy Vsesoiuznogo
soveshchaniia po proizvodstvu kukuruzy. Moskva, Izd-vo M-vu
sel'.khoz.SSSR, 1961. 527 p. (MIRA 14:4)

1. Vsesoyuznoye soveshchaniye po proizvodstvu kukuruzy, Krasnodar,
1960. 2. Glavnyy agronom po kukuruze Ministerstva sel'skogo
khozyaystva SSSR (for Solov'yev).
(Corn (Maize))

MUROMTSEV, G.S.; PEN'KOV, L.A.; BLOKHINA, V.V., red.; DEYEVA, V.M.,
tekhn. red.

[Gibberellins]Gibberelliny. Moskva, Sel'khozizdat, 1962.
230 p. (MIRA 15:11)
(Gibberellin)

PRUTSKOVA, Mariya Grigor'yevna; UKHANOVA, Oktyabrina Ivanovna;
BLOKHINA, V.V., red.; BELOVA, N.N., tekhn. red.

[Winter wheat "Bezostaia 1."] Ozimaia pshenitsa Bezostaia 1.
Moskva, Sel'khozizdat, 1962. 93 p. (MIRA 16:3)
(Wheat--Varieties)

CHESALIN, Grigoriy Alekseyevich, kand. sel'khoz. nauk; BLOKHINA,
V.V., red.; BELOVA, N.N., tekhn. red.; OKOLELOVA, Z.P.,
tekhn. red.

[Cultivation and chemical measures in weed control] Agro-
tekhnicheskie i khimicheskie mery bor'by s sorniakami.
Moskva, Sel'khozizdat, 1963. 214 p. (MIRA 16:12)
(Weed control)

CHESALIN, Grigoriy Alekseyevich, kand. sel'khoz. nauk; BLOKHINA,
V.V., red.; BELOVA, N.N., tekhn. red.; OKOLELOVA, Z.P.,
tekhn. red.

[Agricultural practices and chemical measures in weed
control] Agrotekhnicheskie i khimicheskie mery bor'by s
sorniakami. Moskva, Sel'khozizdat, 1963. 214 p.
(MIRA 17:2)

KOZMENKO, A.S.; ANTROPOV, T.F., spets. red.; BLOKHINA, V.V., red.

[Controlling soil erosion in farm lands] Bor'ba s eroziiei
pochvy na sel'skokhoziaistvennykh ugod'iaxh. Moskva, Sel'-
khozizdat, 1963. 207 p. (MIRA 18:3)

NATAL'IN, N.B., kand. sel'khoz.nauk; BLOKHINA, V.V., red.

[Rice] Ris; sbornik statei. Moskva, Kolos, 1965, 326 p.
(MIRA 18:4)

BLOKHINA, V.V., red.

[Chemistry in the fields] Khimiia na poliakh; sbornik
statei. Moskva, Kolos, 1965. 279 p. (MIRA 19:1)

BLOKHINOV, S.A., mekhanik

Mechanization of warp yarn conveying. Tekst.prom. 20 no.9:62-67
S '60. (MIRA 13:10)

1. Pryadil'naya fabrika Yegor'yevskogo melanzhevogo kombinata.
(Textile industry--Equipment and supplies)
(Conveying machinery)

BLOKHINOV, Ye.G.

Computation of the mean long-term discharge and the variability
coefficient in case of extension of the statistical series. Meteor.i
gidrol. no.4:50-51 Ap '56. (MLRA 9:8)
(Stream measurements)

BLOKHINOV, Ye. G.

Cand Tech Sci - (diss) "Study of the repeatability of rain floods in connection with the calculation of openings in hydraulic installations." Moscow, 1961. 20 pp; (Main Board of Hydrometeorological Services under the Council of Ministers USSR, Central Inst of Forecasts); 200 copies; price not given; (KL, 6-61 sup, 214)

BLOKHINOV, Ye.G.

Selecting the formula for estimating the possible frequency of
streamflow characteristics. Sbor. rab. po gidrol. no.2:115-121
'61. (MIRA 15:2)

1. Vsesoyuznyy proyektno-izyskatel'skiy i nauchno-issledo-
vatel'skiy institut im. S.Ya.Zhuk Ministerstva stroitel'stva
elektrostantsiy SSSR.

(Runoff)

BLOKHINOV, Ye.G., inzh.

Investigating the frequency of floods resulting from rain.
Trudy Gidroproekta no.4:78-113 '60. (MIRA 15:2)
(Ukraine--Floods)

BLOKHINOV, Ye.G., inzh.

Studying hydrological phenomena by parametric composition of
probability distribution functions of natural factors. Trudy
Gidroproekta no.4:118-127 '60.1 (MIRA 15:2)
(Hydrology)

EXCELLENT QUALIFICATIONS FOR THIS AUTHOR ARE AVAILABLE IN THE DETAILED FILE -- AS
WILL BE THE CASE FOR RESEARCH.

100 AND 200 SERIES		PROCESSING AND PROPERTIES INDEX	
Model representation of the electron cloud of hydrogen-like atoms. D. I. Blok- hintsev. <i>Uspekhi Fiz. Nauk</i> 12, 160-71(1932).—A mechanical model is described and 30 photographs show the different stages of the electron cloud. F. H. Rathmann			
ASD-51A METALLURGICAL LITERATURE CLASSIFICATION			
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1ST AND 2ND SURFACES																										PROCESSES AND PROPERTIES INDEX																										3RD AND 4TH SURFACES																									
<i>ca</i> Work function for electrons in metals. In TAMM AND D. BLOCHINER. <i>Physik</i> <i>Z. Supplement</i> 3, 170-206(1933); cf. C. A. 26, 6820. -Math. The work function of electrons depends essentially on the image force and not on a potential barrier at the metal surface F. I. ROSENBAUM																																																																													
ASB-55 A METALLURGICAL LITERATURE CLASSIFICATION																																																																													

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<i>On the Theory of Electronic Motion in a Crystal Space-Lattice. II.</i> Blohinsev (Zhurnal eksperimental'noy i teoreticheskoy fiziki (Journal of Experimental and Technical Physics), 1933, 3, (6), 475-498).—(In Russian.) In this paper is given a generalization of Bloch's theory of the motions of firmly-bound electrons in the conditions of degenerate atomic states, as also of electrostatic motion for terms higher than P and S. Combinations of P and S terms are examined in detail. An idea is given of the electronic wave functions in the form of a Fourier series according to a method similar to Born's well-known method in the theory of the crystal lattice. Appropriate formulae for the motion of an electron in a limited crystal are developed.—N. A.																			
ASB516 METALLURGICAL LITERATURE CLASSIFICATION																			
1930-1939										1940-1949									
1950-1959										1960-1969									
1970-1979										1980-1989									
1990-1999										2000-2009									

SA

213. Stark Effect in Variable Fields. D. Blochaszew. *Phys. Zts. d. Sowjetunion*, 4, 2, pp. 501-515, 1933. In German.—A theoretical discussion is given of the action of a harmonic electric field on the radiation of the atom with various frequencies of the field. A continuous transition from the Stark effect to dispersion is established. The possibility of the experimental proof of the theory is discussed. J. J. S.

21. M. Fiz.

ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION

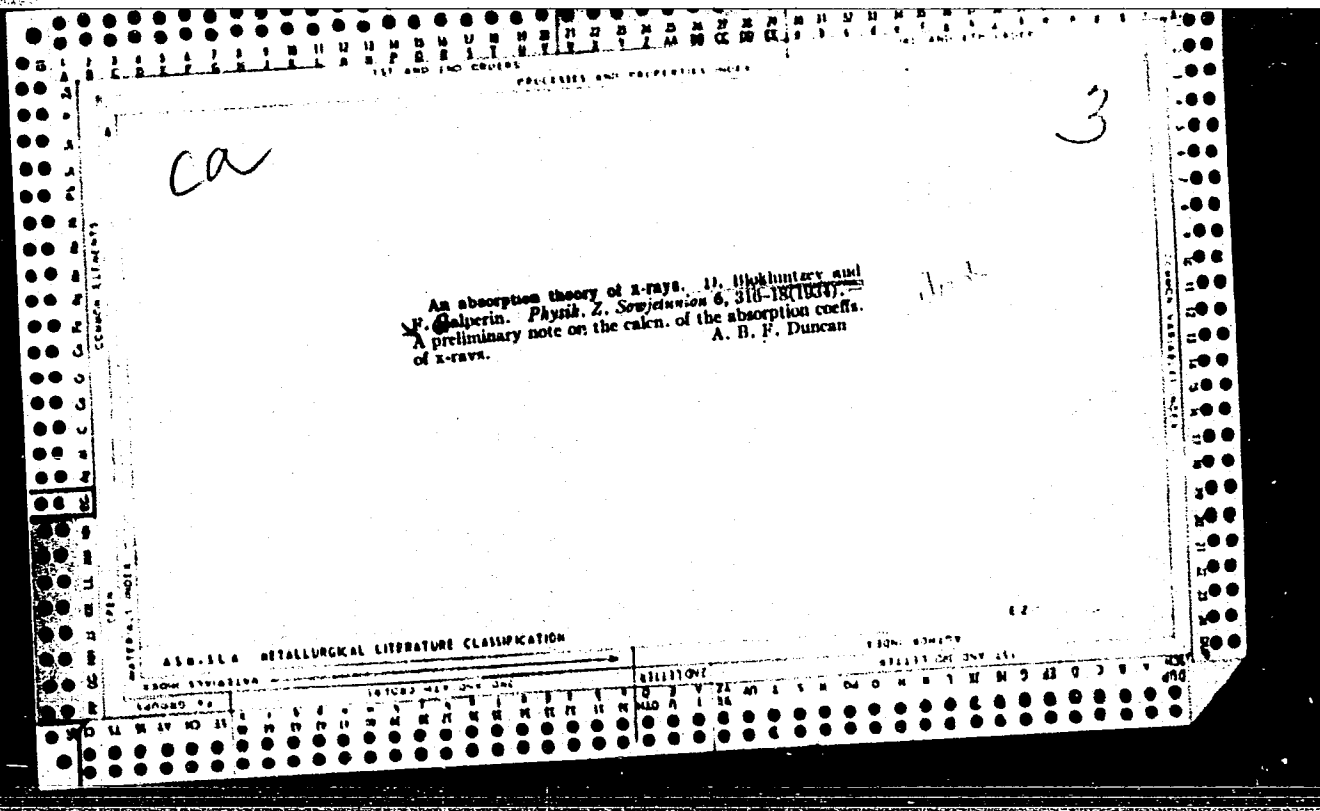
1ST AND 2ND EDITIONS										3RD AND 4TH EDITIONS									
PRICES AND PROPERTIES INDEX																			
87 COMMON ELEMENTS		2844. Theory of Phosphorescence. D. Blochincov. --- <i>Complete Rendus de l'Acad. des Sciences, U.R.S.S.</i> 2:2. pp. 70-81, 1934. In German. --An attempt to explain phosphorescence in terms of quantum theory assuming that it is due to a return of electrons expelled from a centre. The existence of two kinds of centres is deduced, those of neutralized foreign metals and those of transition metal anions. A very approximate calculation has given (not reproduced in paper) a mean life of the centres of 10^{12} times the usual mean life of the excited state (10^{-8} sec.). It is considered that the decay of phosphorescence is determined, quite apart from any theory of recombination mechanism, by the usual law of bimolecular reactions, and the hyperbolic decay formula deduced from this has been confirmed experimentally in the author's laboratory. J. E.																	
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ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION										REMARKS									
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SYNDICATE NO. NINETEEN										BOWLING ONE ONLY LIST									
SYNDICATE NO. TWENTY										BOWLING ONE ONLY LIST									

2

Quantum mechanical theory of adsorption. D. Blok-
intsev and Sh. Shakhmat. *Uspekhi Khim.* (U.S.S.R.)
586-609(1984).--A theoretical-math. review from the
standpoint of the quantum-mech. intermol. forces as
factors in adsorption processes. The theoretical adsorp-
tion potentials are compared with exper. data for several
cases. F. H. Rathmann

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDER		PROCESSES AND PROPERTIES INDEX		3RD AND 4TH ORDER	
CA		Theory of electron motion in crystal lattices. D. Blokhintsev. <i>Physik. Z. Sowjetunion</i> 5, 316-43(1934).— Blokhintsev's model for metals and semiconductors is general- ized to include the case of degenerate terms and is ap- plied to the coupling of S- and P-terms. The resulting wave functions are given in the form of convergent Fourier series. C. D. West		2 km. Fiz.	
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION					
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1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																										STRUCTURAL INDEX																									
Life of particles in the adsorbed state. 11. Blakshintzev and Sh. Shakhter. <i>Acta Physicochim. U. R. S. S. J.</i> 767 (1955).—Theoretical. On the assumption that the mass of the adsorbed particle is small relative to the mass of the adsorbent particle the quantum-mech. perturbation theory is applied to derive an expression for the life of particles in the adsorbed state. For He on W at 20°K., $\tau = 10^{-8}$ sec. The wall energy is calcd. to be 21, 15 and 10% of U, resp., for U values of 2400, 3000 and 10,000 Cal./mole. R. H. Rathmann																										2																									
ASM-A1A METALLURGICAL LITERATURE CLASSIFICATION																										1ST AND 2ND ORDERS																									
3RD AND 4TH ORDERS																										1ST AND 2ND ORDERS																									

SA

GALPERIN.

2403. Absorption and Scattering of X-Rays. D. Blokhin
and F. Galperin. *Phys. Zeits. A, Sowjetunion*, 7, 2, pp. 175-188, 1938.
In German.—The photoelectric K-absorption coefficient in metals is cal-
culated. The values of the absorption coefficient obtained from this
calculation agree with those obtained by experiment. With the help of
the formulae given in the paper the value of the scattering coefficient for a
metal can be estimated. J. T.

A 53
P
Zhu-Fiz.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM LITHOGRAPH

FROM BOMBY

EXACT ONE ONLY

EXACT ONE ONLY

PROCESSES AND PROPERTIES INDEX

3

✓ Theory of the thermionic constant for pure metals. 1). Blokhintsev and Sh. Drabkina. *Physik. Z. Sowjetunion* 7, 484 (1955). Math. The influence of the temp. dependence of the extrn. energy and of the periodic field within a metal on the thermionic const. is not a universal const. A , but depends on structure and is related to A_0 by the equation $A/A_0 = e^{-(\chi_0/\chi) + (D/m^*)}$; (χ is the extrn. energy of electrons, m^* the effective mass, D the penetration coeff. of the surface). Only the temp. coeff. of the extrn. energy is determinative in the alkali metals; in metals with strong internal fields, in addn., D and the ratio of the effective mass of the electrons to the mass of the free electrons must be of importance.

Allen S. Smith

ASH 15.1 METALLURGICAL LITERATURE CLASSIFICATION

Co

The theory of light absorption in heteropolar crystals. D. Bickelsteyn. *Physik. Z. Supplementum* 7, 610-61 (1935).—A theory of light absorption in heteropolar crystals is developed on the representation of the absorption process as the equiv. of the simultaneous creation in the crystal of a free electron and a hole (the neutralized anion). The interaction between the electron and hole is considered to be so small as to give them each an effectively free mobility. The theory shows that the widths of the resulting absorption bands are essentially independent of the temp., a conclusion in agreement with the observations of Hirsch and Pohl (C. A. 28, 4371). Morris Muskat

A 53
dd

SHERKTER,

1806. Lifetime of Particles in the Adsorbed State. D. Bloch-
mann and S. Sherkter. *Acta Physicochimica*, 3, 6, pp. 707-772, 1950.
In German.—The lifetime of particles in the adsorbed state is calculated
by the quantum-mechanical perturbation theory. The formula for the
lifetime so obtained is valid provided that the mass of the particle in
question is small in comparison with the mass of the particles of the
adsorbent. An estimate of the zero-point energy of an adsorbed particle
is also made. L. A. W.

ШЕКАНТЪК,

A 53
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1ST AND 2ND REPORT										3RD AND 4TH REPORT									
COMMON ELEMENTS																			
COMMON PARAMETERS INDEX																			
SA A 348 1478. Theory of Coloured Crystals. D. Blokhin. <i>Phys. Zett. d. Sowjetunion</i>, 10, 4, pp. 431-441, 1938. In German.—A mathematical discussion of the conditions governing the appearance of colour centres in crystals is followed by the derivation of a formula for the mobilities of the F-centres. For an alkali-halogen crystal the theoretical value for the mobility is of the order 10^8 cm./sec./volt/cm. which agrees with the value observed. J. I.																			
ASB-562 METALLURGICAL LITERATURE CLASSIFICATION FROM STUDENT FROM DONOR DATE																			
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117 AND 118 QRTS

PROCESSES AND PROPERTIES INDEX

2

Advances of theoretical physics in the Soviet Union in
twenty years. D. I. Blokhintsev. *Physik. Z. Sowjet.*
union 12, 249-9 (1937) (in English). H. H. Zhurav.

438-11A METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS																										PROCESSES AND PROPERTIES INDEX																									
Kinetics of phosphorescence. D. I. Blakhtinov. <i>Physik. Z. Sowjetunion</i> 12, 880-901 (1937) (in German); cf. C. A. 31, 2933. — Extinction in Lenard phosphors is treated as a bimol. reaction (recombination of ions and electrons). This reaction cannot displace the heat equil. of the electrons set free by the excitation. The explanation of the observed law of extinction is to be found in a series of bimol. reactions that proceed with different velocities. The time of recombination is estd. H. G.																																																			
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BC										A-1									
with TIMIRYAZEV, A.K. LEONTOVICH, M.A. FRENKEL, Ya.I. TAMM, I. Ye.										Generalization of fundamental equations of aerodynamics and electrodynamics. (a) A. K. TIMIRYAZEV. (b) D. I. BLOOMINSEY, M. A. LEONTOVICH, I. E. TAMM, and J. I. FRENKEL (Bull. Acad. Sci. U.R.S.S., 1938, Ser. Phys., 377-390, 391-398). -Criticism of the work of Kanerin (cf. A., 1937, I, 399). Vest AN SSSR, Ser. Fiz.									
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SOME STUDIES										SOME STUDIES									

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Diffraction of molecules. 1. Blokhintsev, J. *Exptl. Theoret. Phys. (U.S.S.R.)* 8, 1249 (1958). Theoret. cal. B. shows that when mols. are diffracted on the surface of crystals, part of the energy of motion may be converted into rotational energy, the more so the less sym. the impinging mols. The intensities of the diffracted and impinging beams are given by I/I_0 as a function of a matrix element, equal to ca. 0.25 for H₂ mols. at 300°.

Zhu. Eksp. i Teor. Fiz.

E. H. Rathmann

ASB-56A METALLURGICAL LITERATURE CLASSIFICATION

COMMON ELEMENTS										1ST AND 2ND ORDER										3RD AND 4TH ORDER									
PROCESSES AND PROPERTIES INDEX																													
<i>BC</i> <i>17-1</i> Theory of solid rectifiers. D. BLOCHINTSEV and B. DAVIDOV (Compt. rend. Acad. Sci. U.R.S.S., 1938, 21, 21-24).—Theoretical. Rectification takes place at the boundary of two semi-conductors of the same type, <i>i.e.</i>, both having free electrons or positive "holes". F. J. L. <i>Doc. AN SSSR</i>																													
ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION																													
MATERIALS INDEX										ESTIMATE INDEX										COMMON VARIABLE INDEX									
SECTION SYMBOLISM										SECTION ONE ONLY ONE										SECTION ONE ONLY ONE									
SECTION ONE ONLY ONE										SECTION ONE ONLY ONE										SECTION ONE ONLY ONE									

Connection between the quantum ensemble and the Gibbs classical ensemble. I. D. I. Blokhintsev. *Phys. (U.S.S.R.)* 2, 71-4 (1940); II. D. I. Blokhintsev and P. Nemirovskii. *Ibid.* 3, 191-4. The authors discuss the conditions for approximating the quantum statistics to the classical. From the quantum ensemble of identical particles there is no transition ($\lambda \rightarrow 0$) to the classical. Through *Chem. Zentr.* 1940, II, 1680; 1941, I, 3330.

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Lebedev Phys. Inst, AS USSR

ASTM A METALLURGICAL LITERATURE CLASSIFICATION

TEST AND END ORDERS										PROCESSES AND PROPERTIES INDEX										TSC AND ATM FACTS									
C A										Breakdown in compressed gases at high pressures and small distances. D. I. Blokhintsev, Ya. M. Parnas and H. M. Vul. <i>J. Phys. Chem.</i> 64:2, 217-32(1940)(in English).—Breakdown voltages in N_2 at pressures up to 90 kg./sq. cm. with field strengths up to 1.5×10^6 v./cm. and electrode distances 0.3 mm. with various kinds of electrodes are shown in 11 figs. The magnitude of the breakdown voltage increases roughly linearly with the pressure and is practically independent of the no. of sparks above 10 passed at the rate of 2 per min. up to pressures of 30 kg./sq. cm. From 40 to 80 kg./sq. cm. the breakdown voltage increases with the no. of sparks for up to 20-25 sparks. Anodes and cathodes of Al, Fe, Cu, Pt, and steel gave practically the same values of breakdown potential. F. H. Rathmann										3									
Physics Inst. im. P. N. Lebedev, Dept. Physico-Math. Sci., AS.																													
ASB-31A METALLURGICAL LITERATURE CLASSIFICATION																													

1ST AND 2ND GROUPS		PROCESSES AND PROPERTIES INDEX	
A		3	
C 2		Hydrodynamics of electron gas. 1. Blokhintsev. <i>Atom. phys. ukrain. S. S. R. 8, No. 2, 143-7(1940)</i> (in Ukrainian); <i>Science Abstracts</i> 43A, 521(1940). The hydrodynamics of the electron gas are discussed and the Thomas-Fermi expression for its energy at rest as corrected by Weizsäcker (<i>C. A. 30, 952</i>) is obtained by making the velocity zero. C. L. W.	
Also :		Zhur. Eksper. i Teoret. Fiz., 9, No. 10, 1939. Physics Inst., im. P. N. Lebedev, AS.	
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1ST GROUP		2ND GROUP	
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z		A B C D E F G H I J K L M N O P Q R S T U V W X Y Z	

PROCESS AND PROPERTIES INDEX																									
CA 3 Modern state of the phosphorescence theory. D. I. Blokhintsev. <i>Bull. acad. sci. U. R. S. S., Ser. phys. 5, 102-111 (1947)</i>. The phosphorescence mechanism of recombination phosphors was studied on the basis of the modern semiconductor theories. The process is shown to be a combination of unimol. and bimol. processes. These depend on the concn. of the active centers and on the spectral compn. of the incident light. G. M. Kosolapoff vest AN SSSR, Ser. Fiz.																									
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—G. V. R.

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